3GPP TSG-N **Tdoc 3GPP NP-99106**

Yokohama, JAPAN

21 – 23 April 1999

Source: 3GPP TSG-N2 Chairman

Title: Proposed liaison statements to TSG-SA1

Attached to this contribution are three liaison statements (Tdoc N2A99339, to which is attached Tdoc N2A99336; Tdoc N2A99345; Tdoc N2A99346) which were agreed by TSG-N2 subgroup A at their meeting 13 – 16 April 1999. Rather than wait until the next meeting of N2, 17 – 21 May 1999, to approve these liaison statements for sending to T1P1 and TSG-S1, it is proposed to seek approval from the TSG-N plenary. The liaison statements have been distributed by email to the TSG-N2 list, with a request to brief TSG-N delegates if there are any objections to the liaison statements as they stand.

TSG-N are asked to approve these liaison statements, so that they can be sent to the appropriate committees for urgent treatment.

3GPP CN2A Meeting **Tdoc 3GPP N2A99339**
Sophia Antipolis, France,
13 - 16 April 1999

Source: TSG-N2A[1]

Title: Proposed liaison statement to T1P1.5 on harmonization change requests to GSM 09.78

TSG N2 thank T1P1 for their liaison statement (T1P1/99-064) and the attached change requests to GSM 09.78 and GSM 09.02. TSG-N2 have taken over the responsibilities of SMG3 WP'C' for the maintenance of GSM specifications.

The change request to GSM 09.02 will be handled by TSG N2 subgroup B at their meeting of 27 – 29 April.

TSG N2 subgroup A discussed the change requests to GSM 09.78 at this meeting; we have a number of comments.

First, there is the procedural question of who should present the change requests for approval in SMG #29. We note that T1P1 asked **SMG3 WP'C'** to arrange to present the change requests for approval at SMG #29. This is, in our understanding, a departure from the procedure previously agreed: that T1P1 would take responsibility for presenting harmonization CRs in SMG, after those CRs had been reviewed and endorsed by the relevant SMG committees. Is that T1P1's intention?

Second, we believe that the CR to GSM 09.78 v7.0.0 is not needed. There is no GSM 09.78 v7.0.0, because the changes to GSM 09.78 for North American Equal Access were treated as part of Release 97, and led to GSM 09.78 version 6.3.0.

Third, we believe that it would be helpful to clarify that where there is CAP interworking between a North American PLMN and a PLMN outside North America the SCCP signalling will pass through an STP (as indicated in the "additional comments" on the CR cover sheet). Accordingly, we have drafted a revised version of the CR, which is attached. We hope that this change is acceptable to T1P1.

Fourth, we believe that the reference to ANSI MTP is redundant, so we propose to delete it from the list of references. We realise that there is a reference to ETSI MTP in the existing list of references; we have drafted a separate change request to delete this redundant reference. Again, we hope that the deletion of the reference to ANSI MTP is acceptable to T1P1.

TSG N2 look forward to receiving from T1P1 an indication of whether the proposed revisions to CR 09.78-A064 are acceptable, and an indication of the procedure to be used in presenting the harmonization CRs to SMG #29.

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3GPP CN2A meeting
Sophia Antipolis, France
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Tdoc 3GPP N2A99336

CHANGE REQUEST No : **A064r1**

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

Technical Specification GSM 09.78 Version: 6.3.0

Submitted to SMG *list SMG plenary meeting no. here ↑* | for approval **X** | for information | without presentation ("non-strategic") **X** | with presentation ("strategic")

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: *(at least one should be marked with an X)* SIM [ ] ME [ ] Network [X]

Work item: Harmonization of CAMEL in North America

Source: T1P1/3GPP TSG-N2 **Date:** 15 April 1999

Subject: Support of ANSI MTP and ANSI SCCP for CAMEL phase 2

Category: *(one category and one release only shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	X
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	

Reason for change: PCS1900 networks in North America employ ANSI MTP and ANSI SCCP to support SS7 signalling. Use of CAP in North America requires definition of ANSI SCCP usage in GSM 09.78.

Clauses affected:

Other specs affected:

Other releases of same spec		→ List of CRs:
Other core specifications		→ List of CRs:
MS test specifications / TBRs		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments: Usage of ANSI SCCP to support CAP is restricted to gsmSSFs and gsmSCFs located in North America. GsmSSFs and gsmSCFs located outside North America are not affected. International STPs would be used to translate between ANSI SCCP and CCITT SCCP, thereby avoiding the need both for a GSM network outside North America to support ANSI SCCP and a PCS1900 network inside North America to support CCITT SCCP.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ETS 300 008 (1993): "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Message Transfer Part (MTP) to support international interconnection".

[2] ETS 300 009 (1994): "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Signalling Connection Control Part (SCCP) [connectionless and connection-oriented] to support international interconnection".

[3] ETS 300 287 (1993): "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Transaction Capabilities Application Part (TCAP) version 2".

[4] ETS 300 356-1: "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services".

[5] ETS 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1); User-network interface layer 3 specification for basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".

[6] ITU-T Recommendation Q.773 (1993): "Specifications of Signalling System No.7; Transaction Capabilities formats and encoding".

[7] ITU-T Recommendation Q.1218 (1995): "Interface Recommendation for intelligent network CS1".

[8] ITU-T Recommendation Q.1400 (1993): "Architecture framework for the development of signalling and organization, administration and maintenance protocols using OSI principles".

[9] CCITT Recommendation X.208 (1988): "Specification of Abstract Syntax Notation One (ASN.1)".

[10] CCITT Recommendation X.209 (1988): "Specification of basic encoding rules for Abstract Syntax Notation One (ASN.1)".

[11] CCITT Recommendation X.219 (1988): "Remote operations: Model, notation and service definition".

[12] CCITT Recommendation X.229 (1988): "Remote operations: Protocol specification".

[13] ISO 9545 (1989): "Information technology - Open Systems Interconnection - Application Layer structure".

[14] ETS 300 374-1 (1994): "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1) Core Intelligent Network Application Protocol (INAP) Part 1: Protocol specification".

[15] GSM 09.02: "Digital cellular telecommunications system (Phase 2+); Mobile Application Part (MAP) specification".

[16] GSM 03.78: "Digital cellular telecommunications system (Phase 2+); Customised Applications for Mobile network Enhanced Logic (CAMEL Phase 2) - stage 2".

[17] CCITT Recommendation Q.713 : "Specifications of Signalling System No.7; SCCP formats and codes".

[18] ITU-T Recommendation X.680 (1994) | ISO/IEC 8824-1:1994, Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Specification of basic notation.

[19] ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1994, Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Information object specification.

[20] ITU-T Recommendation X.682 (1994) | ISO/IEC 8824-3:1994, Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Constraint specification.

[21] ITU-T Recommendation X.683 (1994) | ISO/IEC 8824-4:1994, Information technology - Open Systems Interconnection - Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications.

[22] ITU-T Recommendation X.690 (1994) | ISO/IEC 8825-1:1994, Information technology - Open Systems Interconnection - Specification of ASN.1 encoding rules: Basic, Canonical, and Distinguished Encoding Rules.

[23] ITU-T Recommendation X.880 (1994) | ISO/IEC 13712-1:1994, Information technology - Remote Operations: Concepts, model and notation.
[24] GSM 09.12 (prETS 300 646-1): "Digital cellular telecommunications system (Phase 2); Signalling System No 7 - Application of ISUP version 2 for the ISDN-PLMN (GSM) signalling Interface.
[25] GSM 04.08: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".
[26] GSM 02.24: Digital cellular telecommunications system (Phase 2+); Description of Charge Advice Information (CAI).
[27] EN 301 070-1 (1997): "ISDN User Part (ISUP) version 3 interactions with the Intelligent Network Application Part (INAP); Part 1: Protocol Specification [ITU-T Recommendation Q.1600 (1997), modified]".
[28] GSM 03.03: Digital cellular telecommunications system (Phase 2+); Numbering, addressing and identification.
[29] GSM 03.40 : Digital cellular telecommunications system (Phase 2+); Technical realization of the Short Message Service (SMS); Point-to-Point (PP)
[30] EN 301 140-1 (V1.1): "Intelligent Network (IN); Intelligent Network Capability Set 2 (CS2); Intelligent Network Application Protocol (INAP); Part 1: Protocol specification".
[31] ETS 300 009 (1988): “Integrated Services Digital Network (ISDN); CCITT Signalling System No.7; Signalling Connection Control Part (SCCP) [connectionless and connection-oriented] to support international interconnection“.
[32] ITU-T Recommendation Q.711: “Specifications of Signalling System No.7; Signalling System No. 7 – Functional Description of the Signalling Connection Control Part“.
[33] ITU-T Recommendation Q.712: “Specifications of Signalling System No.7; Signalling System No. 7 – Definition and Function of SCCP Messages“.
[34] ITU-T Recommendation Q.713: “Specifications of Signalling System No.7; Signalling System No. 7 – SCCP formats and codes“.
[35] ITU-T Recommendation Q.714: “Specifications of Signalling System No.7; Signalling System No. 7 – Signalling Connection Control Part Procedures“.
[36] ITU-T Recommendation Q.716: “Specifications of Signalling System No.7; Signalling System No. 7 – Signalling Connection Control Part (SCCP) Performance“.
[37] ANSI T1.113-1995 Signalling System No. 7(SS7) – Integrated Services Digital Network (ISDN) User Part.
[38] ANSI T1.112-1996 : " American National Standards for Telecommunications– Signalling System Number 7 (SS7) – Signalling Connection Control Part (SCCP)".

4 General

4.4 CAP addressing

CAMEL Applications Part (CAP) makes use of the services offered by the Signalling Connection Control Part (SCCP).

The following SCCP revisions are supported by CAP Version 2:

- Signalling Connection Control Part , Signalling System no. 7 CCITT ('Blue Book SCCP')
- Signalling Connection Control Part , Signalling System no. 7 ITU-T Recommendation Q.711 to Q.716 ('White Book SCCP')
- ANSI T1.112-1996 : "American National Standards for Telecommunications– Signalling System Number 7 (SS7) – Signalling Connection Control Part (SCCP)".

When CAP uses White Book SCCP to send a message, and SCCP segments the message into one or more XUDT messages, then the transmission of this message may fail.

Failure will occur when the destination SCCP, or any intermediate SCCP, does not support White Book SCCP.

Support of ANSI T1.112 SCCP applies only to PLMNs in North America. Interworking between a PLMN in North America and a PLMN outside North America will involve an STP to translate between ANSI SCCP and ITU-T/CCITT SCCP.

4.4.1 Sub-System Number (SSN)

The use of SSN is a network operator option and values for intra-PLMN usage are network specific. A CAP SSN has been reserved for inter-PLMN use, as defined in GSM 03.03.

4.4.2 Quality of service parameters

The class (class 0 or class 1) of SCCP is set as required by the application. However class 1 shall be requested by any application that can send more than 1 TCAP message to its peer (consecutive TR-CONTINUE) before receiving a response from its peer (TR-CONTINUE or TR-END).

On receipt of a TC-RESULT-NL indication, the TC-USER shall request the transfer of a reject component using TC-U-REJECT request primitive, with the appropriate problem code (mistyped parameter).

The return option may be used if requested by the application (Network Operator to determine).

4.4.3 SCCP addressing

Within the GSM System there is a need to communicate between entities within the same PLMN and in different PLMNs. Using the CAMEL Application Part (CAP) for this function implies the use of Transaction Capabilities (TC) of CCITT Signalling System No. 7 and the Signalling Connection Control Part (SCCP) of either CCITT Signalling System No. 7 (for non-North American PLMNs) or ANSI Signalling System No. 7 (for North American PLMNs).
When the SCCP of CCITT Signalling System No. 7 is used, t~~T~~he format and coding of address parameters carried by the SCCP for that purpose shall comply with CCITT Recommendation Q.713 [17] with the following restrictions:

1) Intra-PLMN addressing
   For communication between entities within the same PLMN, the use of SCCP addressing is network specific.
2) Inter-PLMN addressing
   a) Called Party Address
      - SSN indicator = a standardised SSN shall be used. The code point used shall be that specified for CAP in GSM 03.03;
      - Point Code indicator = 0;
      - Global title indicator = 0100 (Global title includes translation type, numbering plan, encoding scheme and nature of address indicator);
      - Translation type = 0 (Not used);
      - Routing indicator = 0 (Routing on global title);
   b) Calling Party Address

- SSN indicator = a standardised SSN shall be used. The code point used shall be that specified for CAP in GSM 03.03;
- Point code indicator = 0;
- Global title indicator = 0100 (Global title includes translation type, numbering plan, encoding scheme and nature of address indicator);
- Translation type = 0 (Not used);
- Routing indicator = 0 (Routing on Global Title).

When the SCCP of ANSI Signalling System No. 7 is used, the format and coding of address parameters carried by the SCCP for the purpose of signalling transfer shall comply with ANSI Recommendation T1.112 [38] with the following restrictions:

1) Intra-PLMN addressing

   For communication between entities within the same PLMN, the use of SCCP addressing is network specific.

2) Inter-PLMN addressing

   a) Called Party Address

   - SSN indicator = a standardised SSN shall be used. The code point used shall be that specified for CAP in GSM 03.03;
   - Point Code indicator = 0;
   - Global title indicator = 0010 (Global title includes translation type);
   - the Translation Type (TT) field shall be coded according to the content of the address information as follows:

     TT = 9 (decimal), if IMSI is included
     TT = 14 (decimal), if MSISDN is included,
     Or TT = 10 (decimal), if a Network Element address is included. (If TT=10, then Number Portability is not applicable, if TT=14, then Number Portability is applicable)

   - Routing indicator = 0 (Routing on global title);

   b) Calling Party Address

   - SSN indicator = a standardised SSN shall be used. The code point used shall be that specified for CAP in GSM 03.03;
   - Point code indicator = 0;
   - Global title indicator = 0010 (Global title includes translation type);
   - the Translation Type (TT) field shall be coded according to the content of the address information as follows:

     TT = 9 (decimal), if IMSI is included
     TT = 14 (decimal), if MSISDN is included,
     Or TT = 10 (decimal), if a Network Element address is included. (If TT=10, then Number Portability is not applicable, if TT=14, then Number Portability is applicable)

   - Routing indicator = 0 (Routing on Global Title).

3GPP CN2A Meeting **Tdoc 3GPP N2A99345**
Sophia Antipolis, France,
13 - 16 April 1999

Source: TSG-N2A[1]

Title: Proposed liaison statement to TSG SA WG1 on the requirement for Active Location Retrieval in CAMEL Phase 3

3GPP TSG CN WG2 would like to draw the attention of TSG SA WG1 to a possible misalignment between GSM 10.78, V3.5.0, 'Project scheduling and open issues: CAMEL', and draft TS 02.78, version X.5.0, 'CAMEL Service Definition – Stage 1'.

GSM 10.78 includes a mandatory requirement on CAMEL Phase 3 to include the support of Active Location Information Retrieval (described in sect. A.1.1). This feature allows the gsmSCF to request a PLMN to determine the actual location of a subscriber (e.g. cell ID) at any moment. This method ensures that the requested information is accurate.

The requirement for support of Active Location Information Retrieval has however not been specified in draft TS 02.78, version X.5.0.

TSG CN WG2 would like to receive feedback from TSG SA WG1 on the handling of this requirement of Active Location Information Retrieval, so that TSG CN WG2 know whether to include this capability in the stage 2 & 3 specifications. TSG CN WG2 believe that this would be a useful addition to CAMEL phase 3.

TSG CN WG2 recognise that it is necessary to specify the interworking between CAMEL phase 3 and LCS, including the handling of the configuration where LCS is not supported in the VPLMN even though the HPLMN would want to use it.

An alternative technique for determining the position of an MS is possible; this would require less infrastructure development than LCS, but would give poorer resolution of position, and would need further study of MS behaviour. TSG SA1 are asked to indicate whether the service drivers for position determination require mandatory support for some form of active location information retrieval.

TSG CN WG2 would like to receive the response from TSG SA WG1 so that it can be discussed at the TSG CN WG2 meeting, 17-21 May 1999, in Edinburgh, UK.

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3GPP CN2A Meeting **Tdoc 3GPP N2A99346**
Sophia Antipolis, France,
13 - 16 April 1999

Source: TSG-N2A[1]

Title: Proposed liaison statement to TSG SA WG1 on the requirements of Mobility Management in CAMEL Phase 3.

TSG CN WG2 is currently engaged in the drafting of stage 2 specifications for support of Mobility Management Event Notification in CAMEL Phase 3. This feature is described in the draft TS 02.78, version X.5.0, 'CAMEL Service Definition – Stage 1', as a mandatory requirement for CAMEL Phase 3 (described in sect. F.1).

It has been identified that there is merit in including a Service Key in the event notifications from MSC/VLR to the gsmSCF. A Service Key in the Mobility Management event notifications offers the operator greater flexibility in deploying subscriber dependent Mobility Management related services.

TSG CN WG2 proposes the inclusion of this information element (i.e. Service Key) in the CAMEL Phase 3 – Stage 1 descriptions related to the Mobility Management event notifications.

TSG CN WG2 would like to receive the response from TSG SA WG1 so that it can be discussed at the TSG CN WG2 meeting, 17-21 May 1999, in Edinburgh, UK.

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